MEMORANDUM. UTAH DEPARTMENT OF TRANSPORTATION

DATE: May 9, 2003

TO : Those on the attached list

FROM : Howard J. Anderson, P.E.
Engineer For Pavements

SUBJECT: Utah Pavement Council

Date: May 21, 2003
Location: UDOT Complex, Large Conference Room, First Floor
Address: 4501 South 2700 West
Salt Lake City, UT 84119
Time: 1:00 PM to 4:00 PM

The next Utah Pavement Council meeting is scheduled as shown above.

Attendance March 19th Meeting: (**The April 16th meeting was cancelled**)
Mohammad Rahman, Mike Worischeck, Cameron Petersen, Craig Haskell, Murari Pradhan, Tim Biel, Scott Andrus, Frank Mayfield, Glenn Waite, Larry Gay, Stephane Charmot, Karl Verhaeren, Troy Peterson, Mitzi McIntyre, and Doug Millhollon, Roger Cahoon, Joe Johnson, Jim Hulse, Bill Lawrence, Howard Anderson.

The following ground rules are recommended for our group: 1. Participate by providing your agenda items and reviewing the specifications or procedures and making comments. 2. Bring your reviewed copy of the draft. 3. Come on time and stay and participate as best you can. 4. Stay on task during discussions. 5. Keep personal gripes to a minimum. 6. Keep side conversations during breaks only.

Notes from March 19, 2003 Meeting:

1. **Welcome** - Howard Anderson

2. **To Seal or Not to Reseal Concrete Pavement Joints -** Mitzi McIntyre. Mitzi passed out several handouts on this subject. It was clear the industry was split on the value of **resealing** Portland cement concrete pavement joints. We should look at it closely before we make a change with this. Some projects may need resealing more than others. We now use dowel bars with our standard design and this should help prevent joint deterioration. Different pavement performances have been observed, by way of example,

our old I-15 project in SLC had 30 plus years old pavement (no dowel bars) with joints that had not been resealed, and gave us excellent performance. The question was asked, should we keep our 10 year cycle ro reseal PCC pavements? Probably we will not pull out seal that has not failed yet. The T/3 cut pavement joints should last the whole pavement life. Taking the seal money out the life cycle cost, favors concrete more. But some think it may causes premature concrete failure, although the data we looked at does not support this. Common practice has been to over fill the joints. This may affect the IRI. We have seen the IRI increase after resealing the joints, routing out the joints may effect the joint load transfer. We may want to make this a reactive issue not a pro active one. Joints with Silicone must be resealed with hot pour, then we could leave them. The 5 million code one money we save on concrete joints could be used for maintenance etc. Craig stressed the importance of keeping the water out. For example, in Provo Canyon it was good they were sealed because of the volume of water impacting the road. We need to think about the triggers we need when going from proactive to reactive with the joints. Mitzi mentioned how most states around us still reseal their joints. This will be an RME item. It is not a done deal yet as to what the recommendation will be.

3. **Aggregate Specific Gravity SSD vs. Dry method** - From the previous meeting Doug, and Glenn agreed to look at their past mix designs and see what differences they have if they use the effective bulk specific gravity in their calculations for VMA etc for day to day productions. Doug had a lower adsorptive aggregate and Glenn a higher one so the information should give an idea of what will happen. Glenn went over his data and reported on it. As expected, the effective specific gravity of the aggregate was higher than the bulk specific gravity. The VMA calculation is directly affected and the specification range would have to be adjusted. The real time nature of the data seemed to work better than using one gravity number for the aggregate at the start of the project. We talked about the potential move to an air void controlled specification; the air voids of the HMA is probably more important than the VMA. If we do this we may not need to change to the effective specific gravity on the aggregates. It was mentioned that we had recently modified the VMA specification to a range of 13.5 to 14.5 for the target, using plus and minus 1.25 percent for the upper and lower limit. Any existing projects with the older specification could be change ordered to this new specification.

4. **Macro-surfacing Coat Proposed Specification** - Stephane Charmot from Koch introduced this new specification to the Pavement Council and went over it in some detail. It is basically a generic specification for their product “Road Armor”. It is intended as a surface treatment with more reliability than for example, a chip seal. It is recommended for low and high volume traffic roadways. The goal is to be able to open up the road to traffic within roughly two hours. The liquid application is typically 0.45 gallons per square yard. It is a continuous process (about 5 to 6 mph) taking advantage of a chemical set rather than a curing, drying, breaking type set. It is still a chip seal where the aggregates hits the oil very quickly. You can roll it after 10 minutes, and sweep

it after 30 minutes. It must be swept before traffic hits it. The cost is $1.75 to $2.25 per square yard. Different aggregates can be used such as slag. Texas, Kansans and Colorado have all used this material. Some of the comments are as follows: the emulsion is not specified as cationic or anionic and the Saybolt Viscosity value is pretty much wide open. The group was asked to review the specification and bring their comments to the next meeting.

5. **Calibration of the Profilographs and Technician Certifications -** Murari**.** Those wanting to certify their profilographs may schedule a time with Murari during the week of March 25 to the 28th. Technician certifications can also be scheduled with Murari.

6. **PG 76-28 Project in Region 3, US 40 -** Cameron**.** We discussed the Binder ETG recommendations that we have been too conservative on the cold side of the PG range and not conservative enough to protect against rutting on the high side. We may look to use more PG 70- 28 in place of PG 63-34. We also discussed our concerns with phosphoric acid and used motor oils being added to different pavement binders by some of our asphalt suppliers. Do we want to go to a recipe type specification to control the problem? We could list the materials that are approved to use when making the product. We can look at elastic recovery versus Toughness and Tenacity testing. Colorado and Wyoming are both using the Elastic Recovery. It was agreed that we would look at having a full binder supplier meeting this Fall to go over what will be the new specification.

7. **Aggregate Flat and Elongates -** Roger Cahoon**.** The question came up as to where we are on this topic. The Aggregate Central Laboratory is still looking at this and working with the Regions. Roger asked if a Flakiness Index could be used. He mentioned the 5 percent limit is still in question with the industry. It can be met according to our brief study on this as long as impact crushers are used and not jaw crushers. The impact crushers gave numbers in the range of 3 to 4 percent flat and elongated particles.

8. **Recycled Asphalt Pavement Specification** - The specification was brought up. It is now out as a standard type Special Provision and should be used on all HMA projects department wide.

9. Next meeting date. Wednesday, April 16, 2003. (**This was cancelled, the next meeting is May 21**).

TO :

Dario Alvarez	Pioneer Oil Co.
Scott Andrus	Region 3 Materials
Wade Betenson	Atser
Tim Biel	Materials Division
Tim Bochnowski	Holcim Cement Co.
Lawrence Buss	Construction Division
John Butterfield	Region 2 Materials
Tom Case	Granite Construction Co.
Stephane Charmot	Koch Asphalt Co.
Bob Crunk	Holcim Cement Co.
Rob Duncan	Ash Grove Cement Company
Troy Dunsmore	QC Testing
Mike Forrest	Staker/Parson Paving Co.
Ave Forseth	Pioneer Oil Co.
Larry Gay	Region 4 Materials
Darrell Giannonatti	Construction and Materials Divisions
Jim Golding	Geneva Rock Co.
Jerry Hall	Geneve Rock Co.
Craig Haskell	Region 3
Bruce Hutchinson	ICS
Joe Johnson	Geneva Rock Co.
Karen Kiggins	Heckett MultiServ
Hugh Kirkham	Construction Division
Todd Laker	Holcim Cement Co.
Richard Laubsch	FHWA
Bill Lawrence	Materials Division
Frank Mayfield	Staker/Parson Paving Co.
Fred McGregor	Granite Construction Co.
Mitzi McIntyre	ACPA
Lou Nicoletti	Alta View Concrete
Steven Park	Region 2 Materials
Cameron Petersen	Materials Division
Troy Peterson	Materials Division
Murari Pradhan	Materials Division
Greg Punske	FHWA
Mohammad Rahman	GARCO Testing
Tim Rose	Region 2 Construction
Rodney Terry	Region 1 Materials
Rich Thorn	Utah AGC
Bob Tromble	ISSA
Karl Verhaeren	Region 4 Construction
Glenn Waite	Western Rock Products
Douglas Watson	CMT
Chris Winkler	Trinadad Lake Asphalt
Grant Wiley	Region 3 Materials
Brooke Williams	Holcim Cement Co.
Mont Wilson	Granite Construction Co.
Mike Worischeck	Consultant
Scott Yates	Pioneer Oil Co.

AGENDA
Utah Pavement Council
Wednesday, May 21, 2003

1:00 PM UDOT Complex
Large Conference Room, First Floor
4501 South 2700 West
Salt Lake City, UT 84101

1:00 - 1:10 1. **Welcome** - Howard Anderson
Summary:

1:10 - 2:00 2. **Aggregate Specific Gravity SSD vs. Dry method** . Follow up comments from the Region Materials Engineer meeting.
Summary:

3:30 - 3:45 3. BREAK

3:45 - 4:15 4. **To Seal or Not to Seal Concrete Pavement Joints:** Follow up comments and status, where we are going.
Summary:

4:15 - 4:29 5. **Macro-surfacing Proposed Specification:** Follow up discussion, future project recommendations. Comments from the group on the specification.

Summary:

4:29 - 4:30 6. Next meeting date. **Wednesday, June 18th, 2003.**